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Original Research Article

A Cross-Sectional Assessment of the Foetal & Maternal Outcomes in Women Experiencing Vaginal Bleeding During the First Trimester of Pregnancy

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Abstract

Aim: To examine the maternal and perinatal outcomes in women experiencing vaginal bleeding during the first trimester of pregnancy.

Materials and Methods: The present study is a retrospective study which was conducted in Department of obstetrics and Gynecology, JLNMCH, Bhagalpur, Bihar, India for 9 months. 50 pregnant women with vaginal bleeding in the first trimester of pregnancy were admitted in. All patients whose pregnancy was confirmed were studied chemically. Exclusion criteria was women with diabetes and hypertension with an infertility history or missed obstetrical history. Sonography in 8-10 weeks was conducted on all patients. Follow up of all patients was taken every two weeks in the first 6 months of pregnancy, weekly in 7th and 8th months and twice per week in last month of pregnancy.

Results: The highest percentage of patients (56%) were in the age group of 26-35 years. Bleeding volume in pregnancy was highest (80%) in moderate section. 64% had 0% parity. 36% had history of bleeding in previous pregnancies and 16% of patients had abortion history. Premature labor was found to be highest complication during first trimester vaginal bleeding which was 28%, other complications were premature membrane rupture (8%), placental abruption (14%), intrauterine death (2%), intrauterine growth retardation (4%) and there were no complication in 14%. Out of 50 pregnant women, 34 ended pregnancy successfully. 10% developed diabetes during pregnancy and 25% developed hypertension. The duration of pregnancy in 21% of pregnant women with first trimester vaginal bleeding was between 40-38 weeks 35% of pregnant women was between 38-20 weeks. 7 women had abortion. 40 newborns were evaluated. 6% of newborn had weight of more than 3500 gms, 67% had weight between 2500- 3500 gms and 27% had a weight of <2500 gms.

Conclusion: The present study concluded that predicting factors of mother and infant consequences of pregnancy might be first trimester vaginal bleeding and pivotal role is played by physician precise planning and management in continuation of pregnancy and in reducing fetal complications.

Keywords: First trimester, maternal and perinatal outcomes

Introduction

First trimester vaginal bleeding is a common complication encountered during early pregnancy, affecting approximately 20-25% of pregnancies. This phenomenon, while often benign, can be a source of significant anxiety and concern for expecting mothers, as it may be an early indication of potential pregnancy complications such as miscarriage, ectopic pregnancy, or molar pregnancy. Understanding the aetiology, clinical implications, and management strategies for first trimester vaginal bleeding is crucial for healthcare providers to offer appropriate care and reassurance to patients. [1] First trimester vaginal bleeding, defined as any bleeding from the genital tract occurring before 12 weeks of gestation, is a relatively frequent obstetric issue. Studies have shown that approximately one in four pregnant women experiences some form of vaginal bleeding during the first trimester. The risk factors associated with first trimester bleeding include advanced maternal age, a history of previous miscarriages, smoking, and the presence of uterine abnormalities such as fibroids or polyps. Additionally, assisted reproductive technologies (ART) and certain underlying medical conditions

like thrombophilia or endocrine disorders may also increase the risk of first trimester bleeding. [2]

The clinical presentation of first trimester vaginal bleeding can vary widely. Patients may report spotting, light bleeding, or heavier bleeding accompanied by cramping or pain. A thorough clinical evaluation, including a detailed history and physical examination, is essential. Key aspects to inquire about include the quantity and duration of bleeding, associated symptoms (e.g., pain, dizziness), and any previous history of obstetric complications. Pelvic examination is critical to assess the cervical os (whether it is open or closed), the source of bleeding, and to rule out local causes such as cervical polyps or infections. Ultrasound, particularly transvaginal ultrasound, is the cornerstone of diagnostic evaluation. [3] It helps determine the viability of the pregnancy, location (intrauterine vs. ectopic), and the presence of any hematomas or abnormal gestational tissue indicative of a molar pregnancy. Serum beta-human chorionic gonadotropin (beta-hCG) levels are also useful, especially in differentiating normal from abnormal pregnancies and in the follow-up of ectopic pregnancies and trophoblastic diseases. Management of first trimester vaginal bleeding depends on the underlying cause and the severity of the symptoms. In cases of benign causes like implantation bleeding or small subchorionic haemorrhages, reassurance and expectant management are often sufficient. For threatened miscarriage, management may include pelvic rest, avoiding strenuous activities, and close follow-up with repeat ultrasounds to monitor the viability of the pregnancy. There is limited evidence supporting the use of progesterone supplementation in certain cases of threatened miscarriage, particularly in women with a history of recurrent pregnancy loss. In cases of ectopic pregnancy, timely diagnosis and management are crucial. Treatment options include medical management with methotrexate or surgical intervention, depending on the size and location of the ectopic pregnancy and the patient's hemodynamic status. Molar pregnancies require prompt evacuation of the uterine contents to prevent complications such as persistent gestational trophoblastic disease. Follow-up with serial beta-hCG measurements is essential to ensure complete resolution. [4,5]

Materials and Methods

The present study is a retrospective study which was conducted in Department of obstetrics and Gynecology, JLNMCH, Bhagalpur, Bihar, India for 9 months. 50 pregnant women with vaginal bleeding in the first trimester of pregnancy were admitted in. All patients whose pregnancy was confirmed were studied chemically.

Exclusion criteria was women with diabetes and hypertension with an infertility history or missed obstetrical history.

A written informed consent was taken from all patients and pregnancy consequence was studied like process of pregnancy and prenatal care. Sonography in 8-10 weeks was conducted on all patients. Follow up of all patients was taken every two weeks in the first 6 months of pregnancy, weekly in 7th and 8th months and twice per week in last month of pregnancy. All recordings of pregnancy age at bleeding time, bleeding volume, previous pregnancies history, co-existing diseases, length and duration of pregnancy and birth weight were taken.

Data was analyzed using SPSS 23 software. P value of ≤5% was considered to be significant.

Results

Table 1 shows that the highest percentage of patients (56%) were in the age group of 26-35 years. Bleeding volume in pregnancy was highest (80%) in moderate section. 64% had 0% parity. 36% had history of bleeding in previous pregnancies and 16% of patients had abortion history. Table 2 shows that premature labor was found to be highest complication during first trimester vaginal bleeding which was 28%, other complications were premature membrane rupture (8%), placental abruption (14%), intrauterine death (2%), intrauterine growth retardation (4%) and there were no complication in 14%. Out of 50 pregnant women, 34 ended pregnancy successfully. 10% developed diabetes during pregnancy and 25% developed hypertension. The other pregnancy outcomes are shown in table 3. Table 3 shows that caesarean section (28%) was highest pregnancy outcome in women with first trimester vaginal bleeding and lowest pregnancy outcome was pregnancy termination (8%). The duration of pregnancy in 21% of pregnant women with first trimester vaginal bleeding was between 40-38 weeks 35% of pregnant women was between 38-20 weeks. 7 women had abortion. 40 newborns were evaluated. 6% of newborn had weight of more than 3500 gms, 67% had weight between 2500- 3500 gms and 27% had a weight of <2500 gms.

Table 1: Obstetrical characteristics

Age (Years)		
Age range	**N**	**Percentage**
16-25	14	28%
26-35	28	56%
>36	8	16%
Bleeding volume in pregnancy		
Spotting	1	2%
Moderate	40	80%
High	9	18%
Parity		
0	32	64%
1	12	24%
2	4	8%
>2	2	4%
History of bleeding in previous pregnancies	Yes (18)	36%
Abortion history	Yes (8)	16%

Table 2: Obstetrical complications

Variables	**Number**	**Percentage**
Premature Labor	14	28%
Premature membrane rupture	4	8%
Placental abruption	7	14%
Intrauterine death	1	2%
Intrauterine growth retardation	2	4%
No Complication	7	14%

Table 3: Pregnancy outcome

Variables	**Number**	**Percentage**
Abortion	7	14%
Pregnancy termination	4	8%
Normal vaginal delivery	12	24%
Cesarean section	14	28%
Minute 5 APGAR score <7	5	10%
NICU admission	8	16%

Discussion

In present study, 68% of women who were pregnant with first trimester vaginal bleeding continued their pregnancy which showed that more than half of women selected in study terminated their pregnancy. In Zhila Amirkhani M.D. et al. study [6], 70% of women who were pregnant with first trimester vaginal bleeding continued their pregnancy which showed that more than half of women selected in study terminated their pregnancy. 15-25% of pregnancies and half of study population continued their pregnancy in Snell et al. study. [7] In present study, spontaneous abortion, EP and trophoblastic diseases were majorly the reasons for first trimester pregnancy. Similar results were observed in Dogra et al. [8] study and genetic disorders in more than 50% of spontaneous abortion was the main cause. The diagnosis of cause of vaginal bleeding in the present study was uterus and pregnancy sac evaluation by ultrasound was considered prerequisite. Similarly, in Deutchman et al. [9] and Thorstensen et al. [10] studies, the diagnostic tools used for first trimester vaginal bleeding were ultrasound and detecting serum level rise of βHCG. Most frequently, pregnant women with vaginal bleeding in the first trimester developed bleeding in second and third trimesters because of placenta previa, disruption of placenta were reported in Saraswat et al. [11] and Siddiqui's et al. [12] studies. Similar results as the present study were observed in Weiss et al. [13] study in most complications of first trimester vaginal bleeding were abortion, premature delivery, and disruption of placenta. In Saraswat et al. [11] study, it was observed that route of delivery had no effect on first trimester vaginal bleeding, whereas in the present study, cesarean section had effect on first trimester vaginal bleeding. In Weiss et al. study, length of pregnancy was less and premature delivery was more due to various disorders of placenta in pregnant women with first trimester vaginal bleeding. In Harley A et al. [14] and Riahinejad et al. [15] studies, it was reported that low birth weight of newborns and APGAR of 5

minutes less than 7 in pregnancies with first trimester bleeding was the reason for mortality in newborns. In Yasee et al. [16] study, the average age of pregnancy was 16.3 weeks. The intensity, frequency and amount of vaginal bleeding also might be the effective factor in the end of pregnancy which needs to be evaluated in future studies.

Conclusion

The present study concluded that predicting factors of mother and infant consequences of pregnancy might be first trimester vaginal bleeding and pivotal role is played by physician precise planning and management in continuation of pregnancy and in reducing fetal complications.

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